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ACTION ITEM

Approval of United States Geological Survey – Sacramento Operation Baseline Contract Amendment

Summary: Staff recommends that the Council approve an amendment to a contract with the U.S. Geological Survey (USGS). The amendment would extend the term of the agreement from June 30, 2019 to June 30, 2020, and increase the current budget of $596,200 by $251,800, raising the total to $848,000.

Requested Action

Staff recommends the Council approve an amendment to an agreement (5039) with the U.S. Geological Survey (USGS), increasing the amount from $596,200 to $848,000 and extending the term to June 30, 2020. This amendment extends the pilot studies based on unforeseen equipment failure and wildfire conditions that created the need for additional sampling (spring and fall).

The Executive Officer has delegated authority up to $500,000 to enter into contracts and interagency agreements on the Council's behalf. Because this agreement exceeds that amount, the Council must approve the amended agreement.

Background

The Sacramento Regional County Sanitation District (Regional San) is currently constructing new treatment facilities at the Sacramento Regional Wastewater Treatment Plant (SRWTP), at a cost of approximately $1.5 billion, which are due to be operational in 2021. These upgrades will dramatically reduce total nitrogen levels and alter the concentrations of different forms of nitrogen in the Sacramento River. As a sub-component of the upgrade coming online, the nutrient composition of the treated wastewater effluent may be reduced. To understand what effects these changes may have on the Delta ecosystem, a baseline needs to be established.

Operation Baseline is a set of innovative pilot studies approved for funding by the Council in April 2017. The studies will begin to assess the current state of nutrients, aquatic vegetation, and the food web in areas that may be affected by the changes in nutrient loading. This work is a Science Action Agenda priority in the Delta Science Plan (Action 2.2). In addition, this work has implications for adapting key elements of the Delta Regional Monitoring Program of which was recommended in the Delta Plan (to "Implement Delta Regional Monitoring Program"), and this set of studies will provide new best available science for decision making in the Delta.

The Operations Baseline Initiative

These studies lay the groundwork to enable comparisons between present and future conditions. The broader "Operation Baseline" initiative includes additional collaborators: the Aquatic Science Center, the California State University Maritime Academy, and San Francisco State University, who are funded under separate contracts. These projects will be implemented in advance of the plant upgrade in order to fine-tune conceptual and numeric models of food web effects and to test the efficacy of new monitoring technologies and approaches in assessing potentially far-reaching benefits of the plant upgrade. Aligned methods, new technology, coordinated sampling and analyses, and program synthesis will provide a holistic

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understanding of the present and future roles of wastewater-derived nutrients in Delta food webs.

Results of Pilot Studies

Results of these pilot studies will inform the design of monitoring and special studies that are needed prior to, during, and following SRWTP upgrades to document and understand the ecosystem effects, and inform adaptive management. Two distinct pilot studies will collect timely information for establishing a baseline in open-water and shallow wetland habitats prior to the wastewater treatment plant upgrade. Operation Baseline's studies complement and are coordinated with other monitoring that Regional San conducts pursuant to its waste discharge permits, but go beyond ordinary requirements for wastewater treatment plant discharges.

Funds from this contract also contribute to the development of a conceptual framework that has engaged a multi-disciplinary team to prioritize hypotheses, monitoring elements, and specific studies. In addition, this effort will link ongoing nutrient management efforts in the San Francisco Bay with those in the Delta, providing an estuary-wide ecosystem perspective on the role of nutrients in the Bay-Delta.

Fiscal Information

Estimated costs are summarized below:

	Current Budget	Requested Amendment	*NEW TOTAL*
TASK 1: Joint cooperative pilot studies			
SUBTASK A1: Residence times, landscape elements, phytoplankton	$97,466	**$78,500**	$175,966
SUBTASK A2: Continuous nutrient stoichiometry & phytoplankton	$51,211	**$21,700**	$72,911
SUBTASK A3: Nutrient cycling and links to food web	$259,323	**$92,500**	$351,823
TASK 2: Development of a physical dynamical approach	$153,700	**$0**	$153,700
TASK 3: Conceptual Framework	$34,500	**$34,500**	$69,000
TASK 4: Integration, Communication and Synthesis	$0	**$24,600**	$24,600
TOTAL	$596,200	**$251,800**	**$848,000**

USGS is providing additional matching funds of $24,550 for a total of $68,918.

Task 1: The fall 2017 field sampling resulted in successful sample collection but field equipment malfunctions and unforeseen wildfire conditions prevented sample processing. Funds are being requested for a fall 2018 field sampling effort to meet the objectives of the project. In addition, the allocation of funds to complete the field work and analyses were effected by staff changes in a collaborating agency. The above estimated costs reflect additional funds provided by the Council to USGS for staff to support the full research needs of the project.

Task 3 & 4: Based on stakeholder input received thus far, the complexity of the overall data collection, analysis, synthesis, and communication efforts for Operation Baseline requires additional resources and time for development of conceptual models and integration, communications and synthesis.

List of Attachments

No attachments.

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